

Europäisches Patentamt

European Patent Office

Office européen des brevets



(11) Publication number : **0 545 670 A3**

(12)

EUROPEAN PATENT APPLICATION

(21) Application number : **92310966.4**

(51) Int. Cl.⁵ : **H04M 1/04, B60R 11/02**

(22) Date of filing : **01.12.92**

(30) Priority : **05.12.91 FI 915765**

(43) Date of publication of application :
09.06.93 Bulletin 93/23

(84) Designated Contracting States :
DE FR GB SE

(88) Date of deferred publication of search report :
01.09.93 Bulletin 93/35

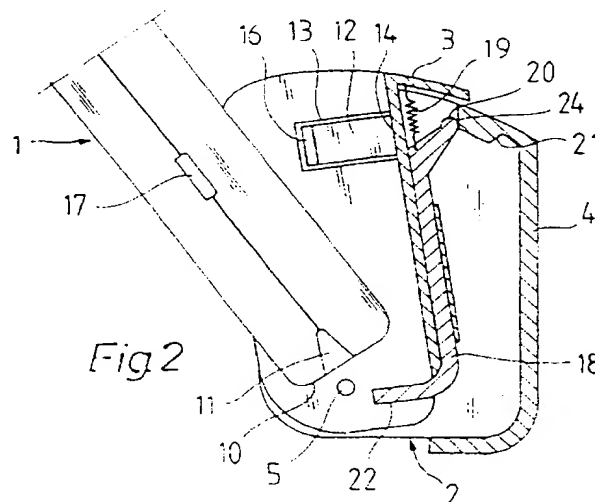
(71) Applicant : **NOKIA MOBILE PHONES LTD.**
P.O. Box 86
SF-24101 Salo (FI)

(72) Inventor : **Niemiö, Mika**
Ruuhikoskenkatu 10 B 1
SF-24240 Salo (FI)
Inventor : **Oikkola, Jari**
Kuuselankatu 9 B 4
SF-24260 Salo (FI)
Inventor : **Léman, Ari**
Peltoniemenkuja 6
SF-25360 Pertteli (FI)

(74) Representative : **Frain, Timothy John**
Patent Department Nokia Mobile Phones
Ashwood House Pembroke Broadway
Camberley, Surrey GU15 3SP (GB)

(54) **Holder for a portable telephone.**

(57) A holder for a telephone, the holder being a cradle portion which is movable between a first and a second position with respect to a mounting portion. The holder comprising retaining members which are urged into and out of contact with a telephone in the cradle portion when the cradle portion is moved between said first and said second position. The retaining members lock the telephone in position with respect to the cradle portion of the holder, when the cradle portion is in the first position.



EP 0 545 670 A3



European Patent
Office

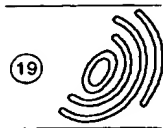
EUROPEAN SEARCH REPORT

Application Number

EP 92 31 0966

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	PATENT ABSTRACTS OF JAPAN vol. 13, no. 280 (E-779)27 June 1989 & JP-A-10 67 054 (AISIN SEIKI CO. LTD) 13 March 1989 * abstract *	1	H04M1/04 B60R11/02
A	EP-A-0 280 061 (LICENTIA PATENTVERWALTUNGS GMBH, DEUTSCHE BUNDESBahn) * column 1, line 1 - line 24; claims 1,4; figures 1,2 *	1	
A	DE-A-4 015 091 (PHILIPS PATENTVERWALTUNG G.M.B.H.) * column 1, line 1 - line 42; claims 1-3; figures 1,4,6 *	1	
A	US-A-4 640 542 (WATJER ET AL.) * column 1, line 1 - line 64; claims 1,6; figures 1,2,10,12 *	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			H04M B60R H05K H04Q
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 05 JULY 1993	Examiner DE HAAN A.J.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P0401)



Europäisches Patentamt
European Patent Office
Office européen des brevets



Publication number : **0 545 670 A2**

(12)

EUROPEAN PATENT APPLICATION

(21) Application number : 92310966.4

(51) Int. Cl.⁵ : **H04M 1/04, B60R 11/02**

(22) Date of filing : 01.12.92

(30) Priority : 05.12.91 FI 915765

(43) Date of publication of application :
09.06.93 Bulletin 93/23

(84) Designated Contracting States :
DE FR GB SE

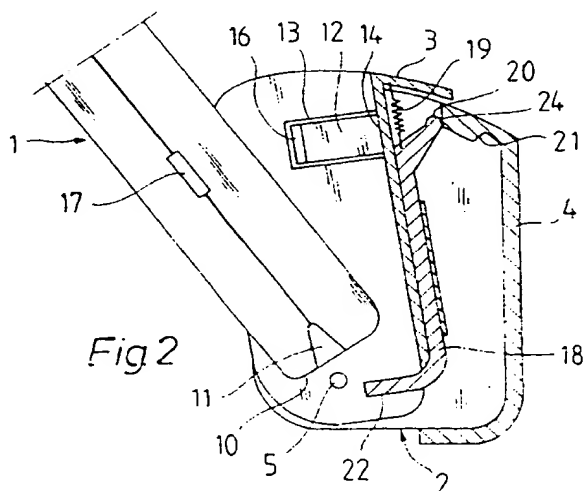
(71) Applicant : **NOKIA MOBILE PHONES LTD.**
P.O. Box 86
SF-24101 Salo (FI)

(72) Inventor : **Niemiö, Mika**
Ruuhikoskenkatu 10 B 1
SF-24240 Salo (FI)
Inventor : **Oikkola, Jari**
Kuuselankatu 9 B 4
SF-24260 Salo (FI)
Inventor : **Léman, Ari**
Peltoniemenkuja 6
SF-25360 Pertteli (FI)

(74) Representative : **Frain, Timothy John**
Patent Department Nokia Mobile Phones
Ashwood House Pembroke Broadway
Camberley, Surrey GU15 3SP (GB)

(54) Holder for a portable telephone.

(57) A holder for a telephone, the holder being a cradle portion which is movable between a first and a second position with respect to a mounting portion. The holder comprising retaining members which are urged into and out of contact with a telephone in the cradle portion when the cradle portion is moved between said first and said second position. The retaining members lock the telephone in position with respect to the cradle portion of the holder, when the cradle portion is in the first position.



EP 0 545 670 A2

The present invention relates to a telephone holder and in particular to a telephone holder for use with a radio phone.

In accordance with the present invention, references to a telephone refer particularly to a telephone handset such as the handset of a radio phone. Telephone holders have to date been complicated in design and composed of a great number of parts. Therefore assembling said parts has been difficult and time consuming. The holders have also been difficult to use and have caused scratching of the telephone handset.

An advantage of the invention is to produce a less complicated telephone holder in which the drawbacks of prior art holders have been avoided.

According to the present invention there is provided a holder for a telephone comprising a cradle portion formed to receive a telephone, a mounting portion, the cradle portion being movably mounted on the mounting portion, and retaining means movable from a non-retaining position, wherein the retaining means do not exert a retaining force on a telephone placed in the cradle portion, to a retaining position, wherein the retaining means exerts a retaining force on a telephone placed in the cradle portion, wherein movement of the cradle portion between a first position and a second position urges the retaining means between said non-retaining position and said retaining position.

In a holder in accordance with the invention a telephone is positioned in place within the cradle portion of the holder, whereafter locking of the telephone in position is enabled by rotating the cradle portion and mounting portion of the holder relative to each other. The telephone will not therefore move relative to the cradle portion during the locking operation and no abrasion or scratching of the telephone occurs. The use of the holder is simple because fixing the telephone to the holder and releasing it therefrom are carried out with a single movement.

The holder is preferably composed of two substantially nested portions, of which the cradle portion, located more inside, serves as a base for the telephone. The portions of a holder of this type can be articulated, and a linking pin located between the lower parts may in addition be arranged to serve as a retainer for the lower part of the telephone inserted in the holder.

The holder may preferably be formed into a cup comprising a bottom and three side walls, on the fourth side of which, i.e. the open side, a telephone may easily be inserted in place into the holder and pushed, together with the base, into a position in which the telephone is locked within the holder.

The retaining members or locking members grasping the telephone set are preferably projections on the inner surface of the front part of the holder which can be urged into recesses provided for that

purpose on the sides of the telephone. The design may be implemented e.g. by arranging resilient, strip-like tongues on the sides of the cradle portion of the holder the tongues being at one end thereof fastened to the holder. The tips of the tongues are shaped into projections insertable into a recesses in the telephone. The tongues are located adjacent to the clamping surfaces in the mounting portion of the holder so that the tongues, in the course of a mutual movement of the cradle and mounting portions of the holder, are urged towards the telephone handset in the holder. Thus the tips formed into projections lock the telephone into the holder.

The holder may comprise a detent provided with springs, arranged to lock the parts of the holder with each other after they have been rotated into a mutual locking position, in which also the telephone has, owing to the rotary movement, become locked in position. The mutual movement between the portion of the holder may in such instance be regulated by arranging the telephone positioned in the holder to depress the detent so that the detent first releases the holder parts to rotate relative to one another, and then locks the parts in place after they have reached their mutual locking position. The detent member may be composed e.g. of a rod-like slide placed on the cradle portion of the holder serving as the base for the telephone and the tip thereof being arranged to be locked in a recess arranged for said purpose in an mounting portion of the holder.

An embodiment of the invention is described below, by way of example, with reference to the accompanying drawings, in which:

Fig. 1 presents a telephone handset and a telephone holder in accordance with the present invention;

Fig. 2 presents a cross-section of the holder of Fig. 1, in which a telephone handset is being placed;

Fig. 3 presents a cross-section of the holder of Fig. 1 with a telephone being locked in the holder; Fig. 4 is a horizontal section of the holder of Fig. 1 with a telephone adapted thereon prior to rotating the parts of the holder into locking position; and

Fig. 5 is a horizontal section of the holder Fig. 1 in i.e section V-V of Fig. 3.

Fig. 1 shows a telephone 1, such as a handset of a mobile phone, and a holder 2 in accordance with the invention, in which a telephone can be mounted and locked. The holder 2 is composed of two, primarily nested parts 3,4, the cradle portion 3 disposed substantially inside the mounting portion 4 serves as a base on which the telephone 1 can be positioned. The parts 3,4 of the holder are joined with a joining pin 5 located in the cradle portion 3, enabling the rotation of the portions relative to each other.

The holder 2 is in the form of a frontally open cup

comprising three side walls 6, 7 and 8 and a bottom 9, into which cup a telephone handset 1 can be inserted through the open side as shown in Fig. 2. In the embodiment disclosed, a runner 11 is provided in the lower part 10 of the telephone for receiving the joining pin 5 between the holder portions 3, 4 so that the joining pin serves as a retainer of the lower part 10 of the telephone placed in the holder (Fig. 3).

On the opposite sides 6, 8 of the cradle portion 3 of the holder resilient tongues 12 have been provided to serve as locking members locking the telephone 1 with the holder. Both tongues 12 have been provided by making a narrow, U-shaped slit 13 on the side 6, 8 of the cradle portion 3 of the holder, to encircle the strip on three sides leaving it fastened at the bottom part 14 to the holder. The tip of each tongue 12 has been formed into a projection 16 directed inwards from the inner surface 15 of the holder. The sides of the telephone 1 are respectively provided with recesses 17 into which the projections 16 are inserted when locking the telephone with the holder.

The mutual movement of the portions 3, 4 of the holder 2 articulated with one another is regulated by a rod-like slide 18 serving as a detent, being affixed on the outer surface of the side 7 of the cradle portion 3 of the holder and provided with a spring 19. For the tip 20 of the slide 18 a recess 21 has been made in the back part 4 of the holder, into which the tip of the slide may be urged by the spring 19. The opposite end of the slide 18 relative to said tip 20 is bent into a tongue 22 directed forward, which the lower end 10 of the telephone is able to press when placing the telephone into the holder.

Figs 4 and 5 show the bevelled clamping surfaces 23 provided on the outer sides of the tongues 12 in the cradle portion 3 of the holder and opposite thereto, on the inner sides of the mounting portion 4 of the holder. When the portions 3, 4 of the holder rotate relative to each other, the clamping surfaces 23 urge the tongues 12 so that they are bent towards the telephone set 1 placed in the holder and the tips 16 of the strips protrude into the recesses 17 on the sides of the telephone, as shown in Fig. 5.

The telephone holder 2 as shown in the drawings is used so that when a telephone handset 1 is placed, e.g. as shown in Fig. 2, on the base provided by the cradle portion 3 of the holder, being in the position as shown in Fig. 4, the telephone depresses the tongue 22 of the slide 18 against the force of the spring 19 so that the tip 20 of the slide is released from beyond a shoulder 24 in the back part 4 of the holder. By pushing more the telephone 1 the cradle portion 3 of the holder is then able to rotate relative to the back part 4 until the slide tip 20 in the locking position shown in Figs 3 and 5 becomes locked drawn by the spring 19 into the recess 21 in the back part of the holder. Simultaneously the clamping surfaces 23 have forced the tips 16 of the tongues 12 to protrude

into the recesses 17 provided in the telephone for them so that the telephone becomes locked with the holder. Releasing the telephone 1 from the holder 2 takes place by pulling slightly, which releases the slide tip 20 from the recess 21 and the parts of the holder return to the position shown in Fig. 4, in which the telephone can freely be lifted from the holder.

The portions of the holder can be fabricated from plastic by injection moulding. Alternatively, the mounting portion and the locating slide can be manufactured by casting from a metal. If the front part of the holder is made from a plastic which is softer than standard construction plastics, it is possible to wedge the telephone into the holder merely by means of friction, whereby the projections in the tips of the strips clamping against the telephone handset may be omitted. In such case, the locking members consist of the inner surfaces of the strips clamping against the telephone or of the inner surfaces of the entire front part of the holder which can be pressed against the telephone set. However, a firmer locking is secured with such projections.

In view of the foregoing description it will be clear to a person skilled in the art that modifications may be made without departing from the scope of the present invention.

Claims

1. A holder for telephone comprising a cradle portion formed to receive a telephone, a mounting portion, the cradle portion being movably mounted on the mounting portion, and retaining means movable from a non-retaining position, wherein the retaining means do not exert a retaining force on a telephone placed in the cradle portion, to a retaining position, wherein the retaining means exerts a retaining force on a telephone placed in the cradle portion, wherein movement of the cradle portion between a first position and a second position urges the retaining means between said non-retaining position and said retaining position.
2. A holder as claimed in claim 1, wherein the cradle portion is mounted on the mounting means so as to enable rotational movement of the cradle portion with respect to the mounting portion.
3. A holder as claimed in claim 1 or claim 2, wherein the cradle portion comprises a locating slide movable with respect to the cradle portion the locating slide having at one end a tip which is urged into a first recess in the mounting portion when the cradle is in said first position and is urged into a second recess in the mounting portion when the cradle is in said second position, so as to lo-

cate the cradle in either said first or second portion.

4. A holder as claimed in claim 3, wherein the locating slide is coupled to the cradle portion by a spring means which urges the tip of the locating slide into said first or said second recess. 5
5. A holder as claimed in claim 3 or claim 4, wherein the opposite end of the locating slide from said tip extends into the cradle portion so as to enable contact between a telephone placed in the cradle portion and said end of the locating slide. 10
6. A holder as claimed in claim 5, wherein the exertion of a force on said end of the locating slide urges the locating slide to move against the force of said spring means so as to enable movement of the tip between said recesses in the mounting portion. 15
20
7. A holder as claimed in any preceding claim, wherein the retaining means comprise tongues formed in side walls in said cradle portion, said tongues each having an inside face which contacts a telephone, when the cradle is in said second position and an outside face which contacts the mounting portion in the second position. 25
8. A holder as claimed in claim 7, wherein the outside face of said tongues and mounting portion adjacent said tongues are formed so as to urge the tongues between the non-retaining position and the retaining position during movement of the cradle portion with respect to the mounting portion. 30
35
9. A holder as claimed in claim 7 or claim 8, wherein the inside face of said tongues each comprise a projection, formed so as to engage a recess in the side of a telephone. 40
10. A holder as claimed in any preceeding claim, wherein the cradle portion comprises a location pin formed so as to locate a telephone in the cradle portion. 45

50

55

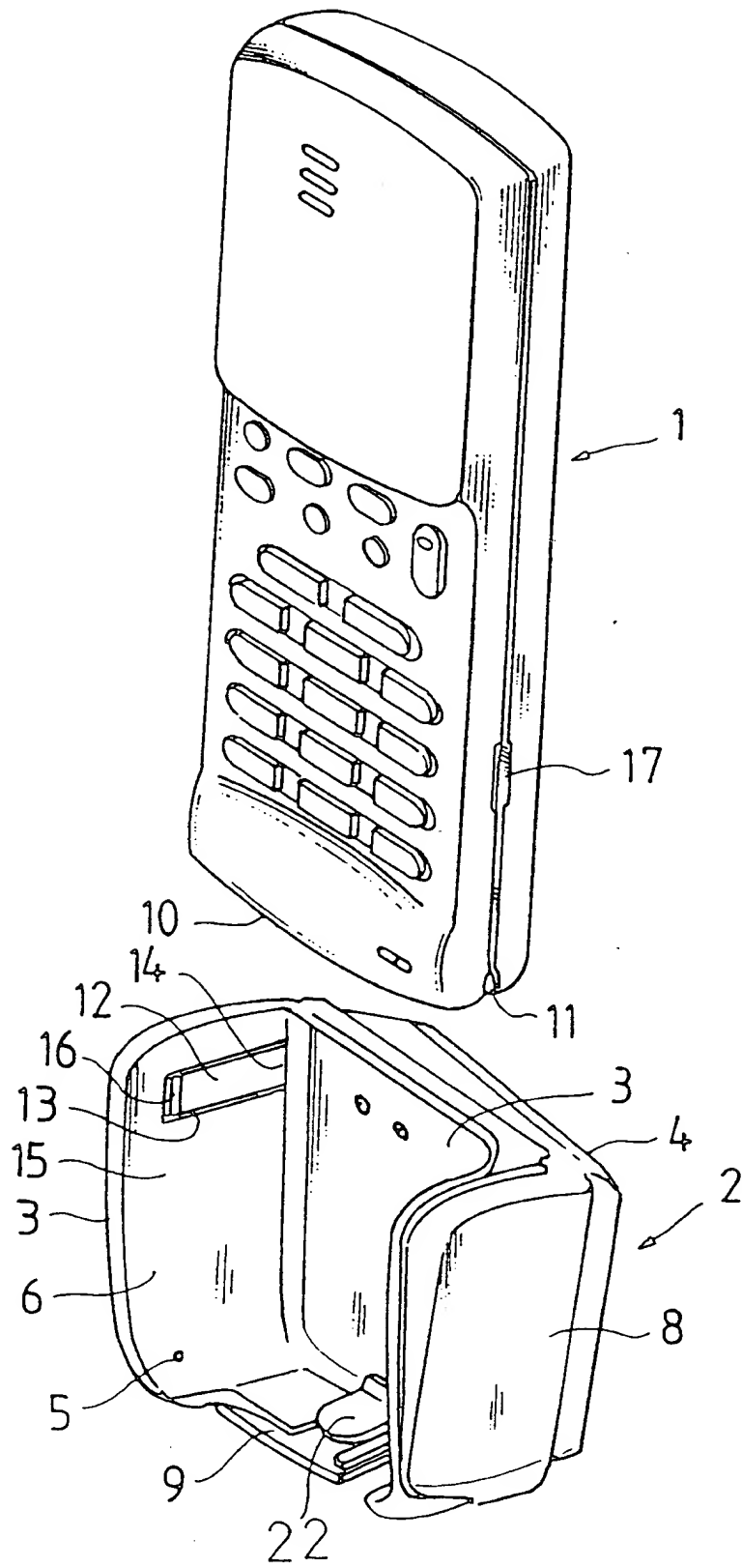
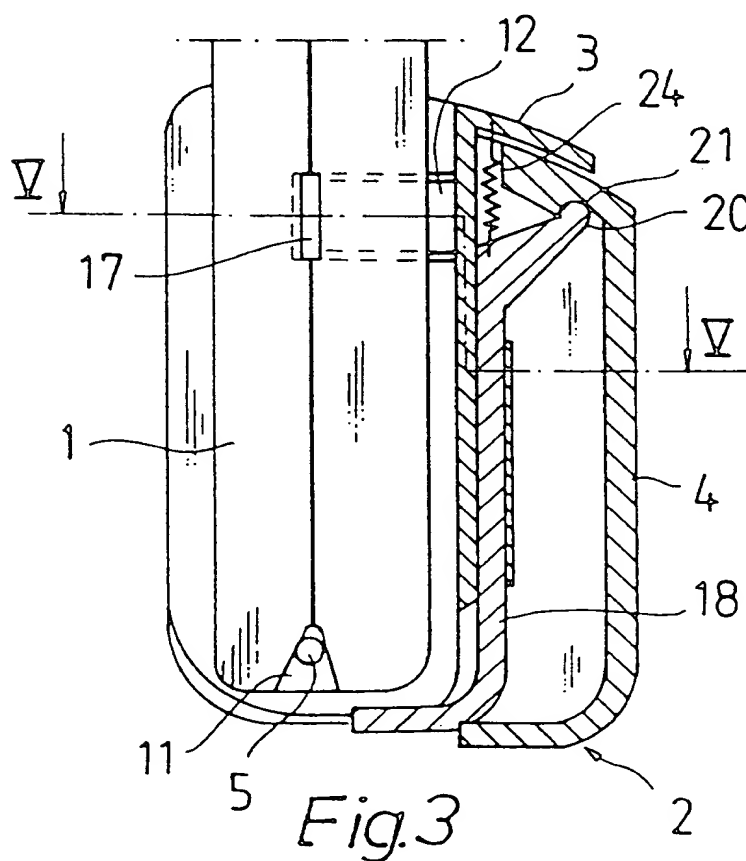
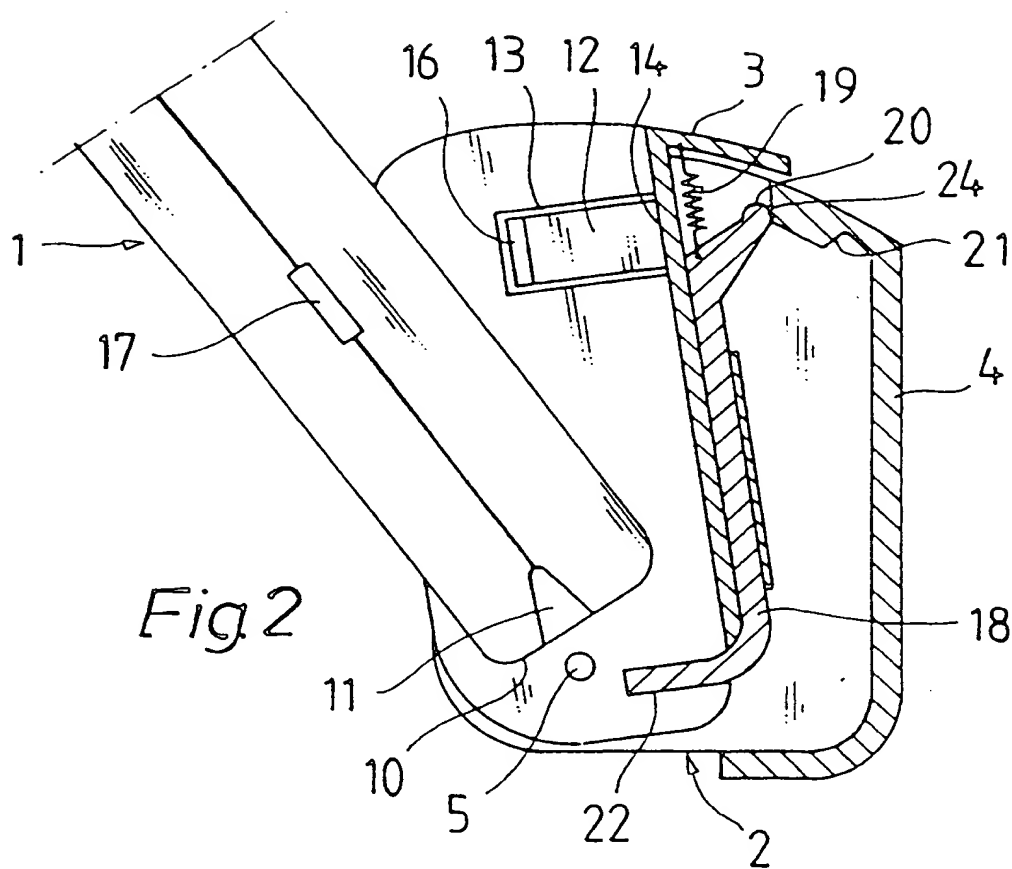


Fig. 1



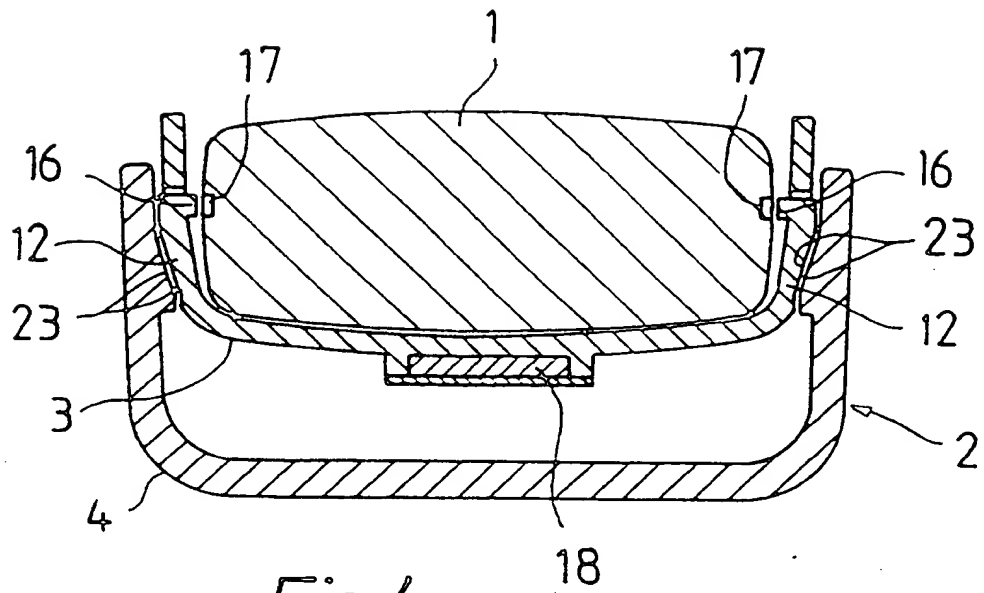


Fig. 4

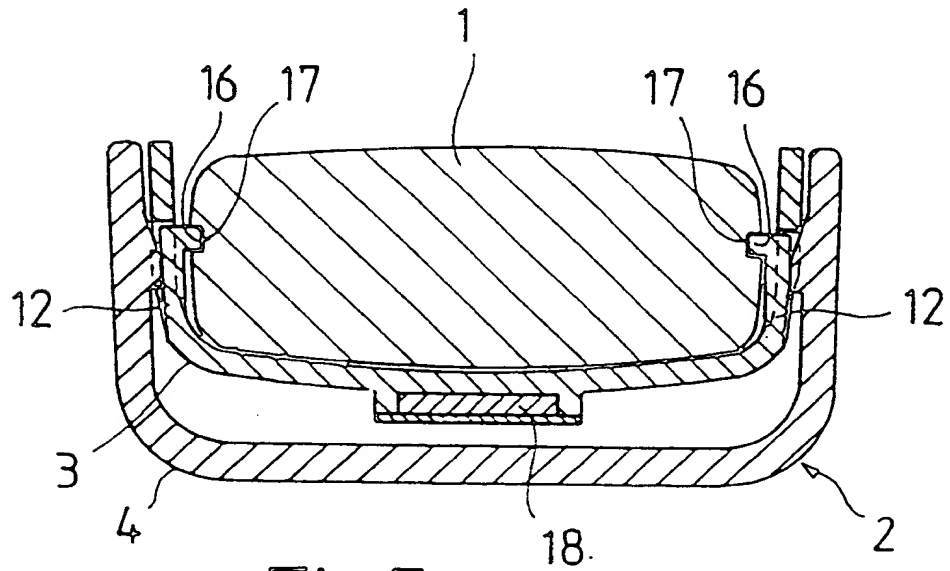


Fig. 5